

**REMARKS****Summary of the Office Action**

In the Office Action, the priority claim has been objected to.

Claims 12-14 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 5,484,188 to *Stoeckl*, in view of U.S. Patent Nos. 5,910,139 to *Cochran* or 6,798,396 to *Gemunder*.

Claims 15 and 16 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over *Stoeckl/Cochran* in view of U.S. Patent No. 6,179,829 to *Bisch*.

Claims 17-23 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over *Stoeckl* in view of *Bisch* and *Gemunder* or *Cochran*.

**Summary of the Response to the Office Action**

Applicant proposes amending claims 12 and 17. In view of the arguments presented below, claims 12-23 are pending for further consideration (claims 1-11 being canceled).

**Priority Claim**

In the Office Action, the priority claim has been objected to.

Applicant respectfully notes that in the Preliminary Amendment of January 12, 2004, Applicant inadvertently indicated "This is a continuation of International Application PCT/DE02/02215 filed June 12, 2002, which designated the U.S. All priorities are claimed," whereas the priority claim should have indicated "This is a continuation of International Application PCT/DE02/02115 filed June 12, 2002, which designated the U.S. All priorities are claimed," in conformance with the International Application PCT/DE02/02115 listed on the originally submitted Oath/Declaration and Application Data Sheet.

Applicant therefore respectfully requests entry of the above-amendment to correct the priority claim, and withdrawal of the objection to the priority claim.

**All Claims are Allowable**

In the Office Action, claims 12-14 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 5,484,188 to *Stoeckl*, in view of U.S. Patent Nos. 5,910,139 to

*Cochran* or 6,798,396 to *Gemunder*. Claims 15 and 16 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over *Stoeckl/Cochran* in view of U.S. Patent No. 6,179,829 to *Bisch*. Claims 17-23 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over *Stoeckl* in view of *Bisch* and *Gemunder* or *Cochran*. Applicant respectfully traverses the rejection of claims 12-23 for the following reasons.

With regard to independent claim 12, Applicant respectfully asserts that *Stoeckl*, *Cochran* and *Gemunder*, viewed either singly or in combination, do not teach or fairly suggest, at least, “a system for operating a dental chair operatively connected to a computer provided separate from a dental chair control unit, comprising, one of actuating elements and status indicators disposed on the dental chair, a computer interface, via which information is transmitted in the form of function codes from the dental chair control unit to the computer by way of the actuating elements, and a storage area in the computer, in which actions assigned to at least one function code are stored, wherein the computer has software capable of managing said at least one function code and by means of which the actions assigned to said at least one function code in a saved configuration file in the storage area is initiated, functions of the software being carried out in a running PC application, and wherein the assignment of said at least one function code associated with the actuating elements or status indicators on the dental chair to prescribed actions are capable of being configured by modifying the configuration file for the software,” as recited in independent claim 12, as amended (emphasis added).

Support for these features recited in claim 12 can be found at least in paragraphs 9-13, 15-20 and 24-38 of the originally filed specification, and in Figs. 1 and 2 of the originally filed drawings. Specifically, as shown in Figs. 1 and 2, the present invention provides a system for operating a dental chair 1 operatively connected to a computer 2 provided separate from a dental chair control unit 12 (see also Para. 24). The system may include actuating elements or status indicators disposed on the dental chair. The system may also include computer interfaces 5, 6 via which information is transmitted in the form of function codes from the dental chair control unit to computer 2 by way of the actuating elements (see also Paras. 24-26). A storage area is provided in computer 2, in which actions assigned to one or more function codes are stored (see also Para. 25). Computer 2 also includes software capable of managing the function code and by means of which the actions assigned to the function code in a saved configuration file in the

storage area are initiated (see also Paras. 25-30). Functions of the software are carried out in a running PC application, wherein the assignment of the function code associated with the actuating elements or status indicators on the dental chair to prescribed actions are capable of being configured by modifying the configuration file for the software (see also Para. 33).

Based on the discussion above and as also discussed in detail in the original disclosure, the present invention thus includes the following key exemplary features:

1. A dental chair fully operational by its control unit (i.e. control panel 12) without any external PC.
2. The dental chair includes a computer (i.e. a microcontroller with control panel 12) on its own.
3. There is a supplemental PC (i.e. computer 2) beside the dental chair.
4. The dental chair control unit (i.e. control panel 12) is operated as a remote control of the PC and of applications running on the PC.
5. The remote operation is realized by a specialized software (see discussion below) which manages the functions of the commands from the dental chair control unit (i.e. control panel 12) corresponding to the selected PC application and specific for the PC application.

The Office Action cites *Stoeckl*, *Cochran* and *Gemunder* as teaching or suggesting the system for operating a dental chair as recited in independent claim 12.

Based on the detailed discussion below, the teachings of *Stoeckl*, *Cochran* and *Gemunder* differ from the present invention in at least the following respects:

1. Configuration of the dental chair control unit by loading data from a separate PC to the control unit to configure the mode of operation of the dental chair and the dental handpieces (see *Stoeckl*, *Cochran*).
2. *Gemunder* teaches use of a foot control as an extended keyboard to transmit commands to a PC-application running on a PC connected to the keyboard and foot control. This foot control is exclusively for operating the PC and the video camera connected to the PC, which is not operational without the PC. *Gemunder* includes no dental chair and no dental chair control unit with own capacities of operating the dental chair. So one could consider *Gemunder* as a pure supplemental hardware

solution, whereas the present invention is directed to a software solution making use of existing devices such as actuating elements and status indicators. Further, since *Gemunder* does not teach the possibility of making the foot control behave depending on a selected PC-application, a stroke will always be the same input, for example curser right or curser left or F10. There is no software changing the meaning of a command following the selected PC-application. Thus, *Gemunder* teaches away from the present invention.

Thus based on the distinctions noted above, Applicant respectfully asserts that *Stoeckl*, *Cochran* and *Gemunder*, viewed either singly or in combination, do not teach or fairly suggest, at least, “a system for operating a dental chair operatively connected to a computer provided separate from a dental chair control unit, comprising, one of actuating elements and status indicators disposed on the dental chair, a computer interface, via which information is transmitted in the form of function codes from the dental chair control unit to the computer by way of the actuating elements, and a storage area in the computer, in which actions assigned to at least one function code are stored, wherein the computer has software capable of managing said at least one function code and by means of which the actions assigned to said at least one function code in a saved configuration file in the storage area is initiated, functions of the software being carried out in a running PC application, and wherein the assignment of said at least one function code associated with the actuating elements or status indicators on the dental chair to prescribed actions are capable of being configured by modifying the configuration file for the software,” as recited in independent claim 12, as amended (emphasis added).

In further detail, *Stoeckl*, as illustrated in Figs. 1-5 thereof and noted in the Official Action discloses a dental patient chair including actuating and status indicators (see Fig. 2), and a CPU 22 having storage area 24 and computer interface 23 for communicating via the actuating and status indicators via serial interface 23. Thus *Stoeckl* (and *Cochran*) generally teach configuration of a dental chair control unit by loading data from a separate PC to the control unit to configure the mode of operation of the dental chair and the dental handpieces.

Compared to the present invention system for operating a dental chair, the dental patient chair of *Stoeckl* differs from the present invention system in several fundamental and patentably distinct respects.

First, for the present invention, computer 2 is provided separate from dental chair 1 and its dental chair control unit 12. This fundamental difference is important in that the separately disposed computer 2 allows for unique control capabilities of the dental chair, compared to the device of *Stoeckl*. Thus, at the outset, *Stoeckl* fails to teach or fairly suggest, at least, “a system for operating a dental chair operatively connected to a computer provided separate from a dental chair control unit,” as recited in independent claim 12, as amended.

Secondly, for the present invention, as shown in Figs. 1 and 2, after a button is actuated on control panel 12 for the dental chair control unit, software is executed on computer 2, again disposed separately from the chair and its control unit. Thus, *Stoeckl* further fails to teach or fairly suggest, at least, “the computer has software capable of managing said at least one function code and by means of which the actions assigned to said at least one function code in a saved configuration file in the storage area is initiated, functions of the software being carried out in a running PC application,” as recited in independent claim 12, as amended.

Thirdly, for the present invention, as shown in Figs. 1 and 2, computer interfaces 5, 6 are provided via which information is transmitted in the form of function codes from the dental chair control unit to computer 2 by way of the actuating elements (see also Paras. 24-26 of the original specification). This difference is important in that the separately disposed computer 2 allows for modifiable software control capabilities of the dental chair, compared to the device of *Stoeckl*. Thus, *Stoeckl* likewise fails to teach or fairly suggest, at least, “a computer interface, via which information is transmitted in the form of function codes from the dental chair control unit to the computer by way of the actuating elements,” as recited in independent claim 12, as amended.

The aforementioned distinctions are important in that whereas *Stoeckl* discloses an internal CPU for controlling the dental chair via its user interface and a storage area provided within the internal CPU, for the present invention, the storage area interacting with the dental chair CPU is disposed separate from the chair. Thus in addition to an internal CPU for controlling the dental chair, the user interface for the present invention dental chair also uses the storage area of the externally disposed computer, with the externally disposed storage area provided for function codes of software programs running on externally disposed computer 2.

Thus upon pressing of a button on control unit 12 for the present invention, software programs are executed on externally disposed computer 2, with the function of the respective button on control unit 12 being defined in a configuration file on computer 2.

These features are important in that comparably, for *Stoeckl*, the internal CPU of the chair interacts with its user interface and its internal storage area with predefined, stored positions of the chair. Further, it is possible to give a signal to the internal CPU by the help of a PC (Col. 5:32-41) or a control panel with an operating area (Col. 5:42-60) indicating a desired treatment position of the chair, stored in the internal storage. All efforts are directed to control the chair.

For the present invention, the external computer with its storage area interacts with the CPU of the chair and its user interface and uses the storage area of the computer supplementary to the storage area of the internal CPU of the chair. The main focus here is to control the functions of computer 2 via the buttons of control unit 12 of the chair. Thus, as discussed above and emphasized herein, *Stoeckl* fails to teach or fairly suggest, at least, “a computer interface, via which information is transmitted in the form of function codes from the dental chair control unit to the computer by way of the actuating elements,” as recited in independent claim 12, as amended.

*Gemunder*, as illustrated in Figs. 1-3 thereof, teaches use of a foot control 30 as an extended keyboard to transmit commands to a PC-application running on a PC 10 connected to keyboard 14 and foot control 30. This foot control is exclusively for operating the PC and video camera 20 connected to the PC, which is not operational without the PC. *Gemunder* includes no dental chair and no dental chair control unit with its own capacities of operating the dental chair. This one could consider *Gemunder* as a pure supplemental hardware solution, whereas the present invention is directed to a software solution making use of existing devices such as actuating elements and status indicators. Further, since *Gemunder* does not teach the possibility of making the foot control behave depending on a selected PC-application, a stroke will be always the same input, for example curser right or curser left or F10. There is no software changing the meaning of a command following the selected PC-application. Thus, *Gemunder* teaches away from the present invention.

Thus based on the distinctions noted above, Applicant respectfully asserts that *Stoeckl*, *Cochran* and *Gemunder*, viewed either singly or in combination, do not teach or fairly suggest, at

least, “a system for operating a dental chair operatively connected to a computer provided separate from a dental chair control unit, comprising, one of actuating elements and status indicators disposed on the dental chair, a computer interface, via which information is transmitted in the form of function codes from the dental chair control unit to the computer by way of the actuating elements, and a storage area in the computer, in which actions assigned to at least one function code are stored, wherein the computer has software capable of managing said at least one function code and by means of which the actions assigned to said at least one function code in a saved configuration file in the storage area is initiated, functions of the software being carried out in a running PC application, and wherein the assignment of said at least one function code associated with the actuating elements or status indicators on the dental chair to prescribed actions are capable of being configured by modifying the configuration file for the software,” as recited in independent claim 12 (emphasis added).

As pointed out in M.P.E.P. § 2143.03, “[t]o establish prima facie obviousness of a claimed invention, all the claimed limitations must be taught or suggested by the prior art”. *In re Royka*, 409 F.2d 981, 180 USPQ 580 (CCPA 1974). Since this criterion has not been met, Applicant respectfully asserts that the rejection under 35 U.S.C. § 103 (a) should be withdrawn because *Stoeckl*, *Cochran* and *Gemunder* do not teach or suggest each feature of independent claim 12, as amended.

In view of the above arguments, Applicant respectfully requests the rejection of independent claim 12 under 35 U.S.C. § 103 be withdrawn. Additionally, claims 13-16, which depend from independent claim 12, are allowable at least because their base claim is allowable, as well as for the additional features recited therein.

#### Independent claim 17

With regard to independent claim 17, Applicant respectfully asserts that *Stoeckl*, *Cochran*, *Gemunder* and *Bisch*, viewed either singly or in combination, does not teach or fairly suggest, at least, “a method of controlling a dental chair operatively connected to a computer provided separate from a dental chair control unit, comprising the steps of: actuating one of an actuating element and a status indicator disposed on the dental chair, and generating information thereon at the dental chair; transmitting the information in the form of at least one function code

from the dental chair to the computer; comparing the information in the form of said at least one function code with a configuration file in a storage area in the computer; and carrying out an action assigned to predetermined information stored in a configuration file; wherein the comparison of the information is taken over by software managing said assignment and independent of the PC applications used, by means of which the action is carried out, by opening or closing of a PC application, and wherein the assignment of said at least one function code of the status indicator or actuating element on the dental chair to the action is specified and is configured by modifying the configuration file,” as recited in independent claim 17 (emphasis added).

The teachings of *Stoeckl*, *Cochran* and *Gemunder* are discussed above.

With regard to *Bisch*, Applicant respectfully asserts that *Bisch* discloses configuration of a foot controller by a PC with different operation modes of a dental handpiece. The different settings of the foot control are managed by a software. There is no external PC, and the foot controller is connected to the dental chair control unit. Further, there are no PC-applications running on an external PC and thus there is no control of such PC-applications by a software.

Thus based on the distinctions noted above for the teachings of *Stoeckl*, *Cochran* and *Gemunder*, *Bisch* likewise fails to overcome the noted deficiencies.

Applicant thus respectfully asserts that claim 17 is allowable at least for the reasons presented above for the allowance of independent claim 12, the distinctions noted above, and the additional features recited therein. Additionally, claims 18-23, which depend from independent claim 17, are allowable at least because their base claim is allowable, as well as for the additional features recited therein.

### **CONCLUSION**

In view of the foregoing, Applicant respectfully requests the entry of this Amendment to place the application in clear condition for allowance or, in the alternative, in better form for appeal. Applicant also requests the Examiner's reconsideration and reexamination of the application and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite prosecution.




If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 04-2223. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

**DYKEMA GOSSETT PLLC**

Dated: January 29, 2008

By:

A handwritten signature in black ink, appearing to read 'Adesh Bhargava', written over a horizontal line.

Adesh Bhargava

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